Ch 6 Quadratic Functions and Inequalities

6.1 Graphing Quad. Fn.s

$f(x)=ax^2+bx+c$

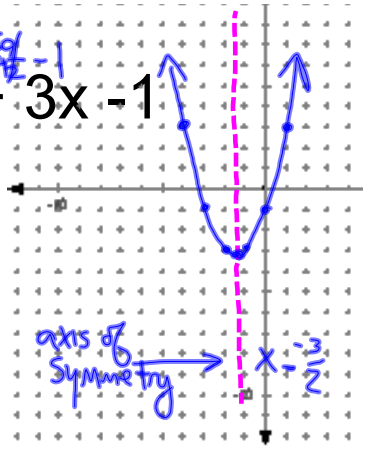
$a \neq 0$

parabola 

ex 1:

$f(x)=x^2+3x-1$

x	f(x)
-3	-1
-2	-3
-1	-3
0	-1
1	3
$-1\frac{1}{2}$	$-\frac{13}{4}$ $-3\frac{1}{4}$



Vertex $\left(\frac{-b}{2a}, \quad\right)$

Equation of axis of symmetry $x=-\frac{b}{2a}$

y-intercept $(0,c)$

ex:2

$f(x)=x^2-4x+2$ ax^2+bx+c

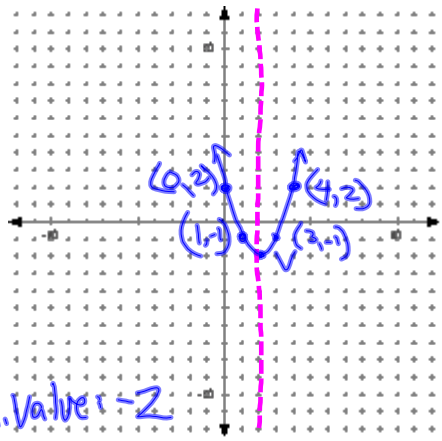
$\frac{-b}{2a}$ $\frac{4}{2}=2$ $-8+2$

$V(2,-2)$

a.o.s. $x=2$

y-intercept $(0,2)$ Mirrored pt $(4,2)$

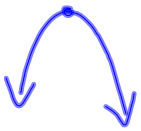
other pt. $(1,-1)$ Mirrored pt $(3,-1)$



Min. value: -2

Minimum pt 

y-value or f(x)

Maximum pt 

Do

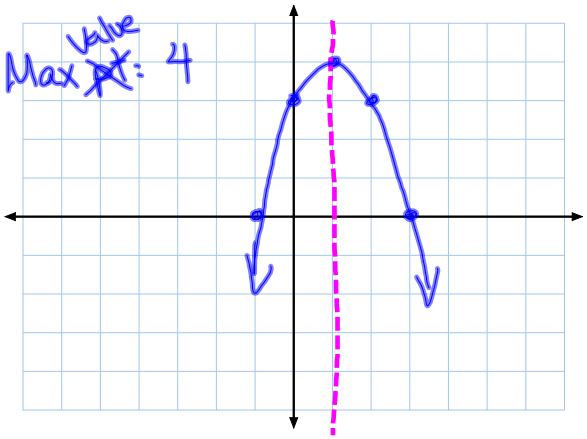
$f(x)=-x^2 + 2x +3$

V(1,4)

A.o.s $x=1$

y-int (0,3) (2,3)

(-1,0) (3,0)



HW

p29l

17-27 odd

33-38